G/E 77
7 November 1957

MILITARY GEOGRAPHICAL FEATURES OF NORTHERN GUATEMALA

Northern Guatemala, or that section of the country lying north of 16°N and known as the departamento of Petén, consists mostly of remarkably level plains with scattered low ridges and hills, interspersed with numerous depressions. The greatest elevations, around 1200 feet, occur in the southeast in the Petén Hills which extend into Guatemala from the uplands of southern British Honduras. Average elevation for the plains area is around 500 feet.

Military operations in the area and along the British Honduras border would most significantly be affected by the lack of existing transportation facilities, the jungle-type vegetation prevalent throughout the area, and wet ground from May into November.

The entire region is underlain by limestone deposits, of Tertiary origin in the north and south, and Cretaceous origin in the central area around Lake Petén. In the hilly areas sinkholes are common, having been formed by the subterranean erosion characteristic of limestone areas. Some have impervious clay bottoms and during the rainy season (May through October) become ponds; others connect with underground drainage so that they dry out and fill with vegetation. Larger depressions, locally called bajos, become extensive areas of swamp during the rainy season, but most of them dry up during the dry season between November and April. Some remain wet and muddy the year round, and some are sufficiently below the water table so that they form

permanent lakes. The region is characterized by underground drainage rather than surface runoff, although a few sluggish, meandering streams are perennial and are apt to flood during the rainy season. Secondary streams form during the rainy season, but most are decidedly reduced or disappear during the dry season.

Water resources are available the year round throughout most of the region, although the water quality is poor due to heavy mineralination and, in some areas, bacterial contamination. Where surface water cannot be found, there is usually an underground supply.

Vegetation consists almost entirely of very dense forest, with broad-leaved evergreens predominating. In areas with a distinct dry season, deciduous trees, grasslands, and scrub also occur, but where deciduous trees grow along stream banks they are almost never entirely leafless because of the constant moisture and warm temperatures. As a result, in most areas dense vegetation is available for concealment purposes throughout the year. The only extensive area of savannah is south of Laguna de Petén, in the central part of the area; small savannahs are scattered through the Petén Hills.

Cultural features are very sparse. Occasional villages are scattered throughout the area, but they are very small. The 1950 Census lists only 10 towns, with population ranging from 189 to 1,574; only three of these were over 1000. Only two roads exist, one near Flores and the other near Poctun. All other communication is by dirt trails in dry weather only, or by air. A few small air strips are used by small planes, but they serve a limited purpose only.

Movement of troops in the area would be extremely difficult in the dry season, and almost impossible during the wet season. The ground is prevailingly dry for about 4 months of the year, but from May through December soft ground and standing water would prohibit the use of even tracked vehicles, and throughout the entire year the dense forests would be a problem. Along the border, the hilly section in the south would present problems on the slopes, and soft ground in the valleys.

Road and airfield construction would be difficult because of the short dry season, the lack of existing means of procuring supplies, lack of labor, and limited construction materials. Although much of the area is underlain by bed rock close to the surface, providing a fairly stable base, deep deposits of plastic clay also occur often, requiring quantities of rock fill which are not always readily available. Forest clearing presents an additional major problem. Construction of airfields would require preliminary investigation for subsurface caverns and potential sinks in limestone areas. In sections subject to flooding, grades would have to be raised by fill to assure use during the wet season. Maintenance on both roads and airfields would be difficult because of floods, washouts, and rapid regrowth of vegetation.